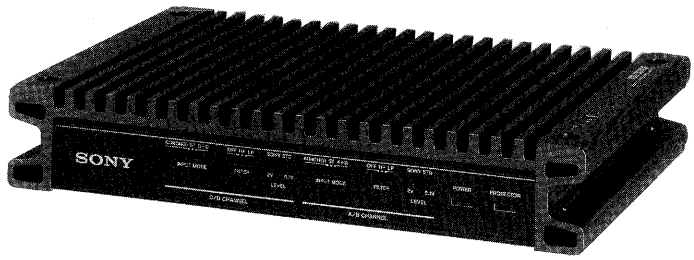
XM-3040F

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model
E Model



SPECIFICATIONS

AUDIO POWER SPECIFICATIONS

POWER OUTPUT AND TOTAL HARMONIC DISTORTION 30 watts per channel minimum continuous average power into 4 ohms, both channels driven from 20-20,000Hz with no more than 0.08% total harmonic distortion per Car Stereo Ad Hoc Committee standards.

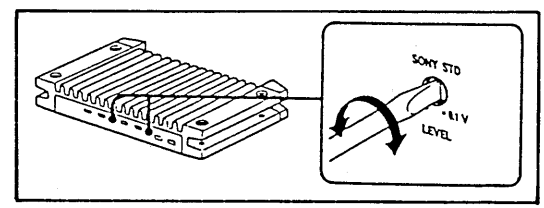
Other Specifications

Power supply system	Pulse power supply circuitry
Input	Car stereo input (phono jack)
Outputs	Speaker outputs
Speaker impedance	2–8 ohms
Maximum power output	4 ch : 80 watts×4 at 4 ohms 3 ch : 80 watts×2+180 watts at 4 ohms 2 ch : 180 watts×2 at 4 ohms
Frequency response	8Hz–100kHz $^{+0}_{-3}$dB (4 ohms)
Crossover frequency	High Pass Filter 80Hz Low Pass Filter 80Hz
Crossover slope	High Pass Filter 18dB/oct Low Pass Filter 18dB/oct
Harmonic distortion	0.005%
Input level adjustment range	0.1–2V
Power requirements	12V DC car battery (negative ground)
Current drain	28A (at rated output)
Input remote current	5mA
Dimensions	Approx. 310×55×220mm (w/h/d) (12¼×2¼×7⅞ inches)
Weigh	Approx. 3.75kg (8 lb. 40 oz.)
Accessories supplied	Mounting screws (4)

Design and specifications subject to change without notice.

Level Adjustment Control

The input level can be varied with this control. Use it to adjust the input sound level when using source equipment of other manufacturers.
Be sure to set the control to SONY STD if the unit is connected to a SONY car stereo. Turn it to 0.1V when the input level of the cassette car stereo or CD player seems low.

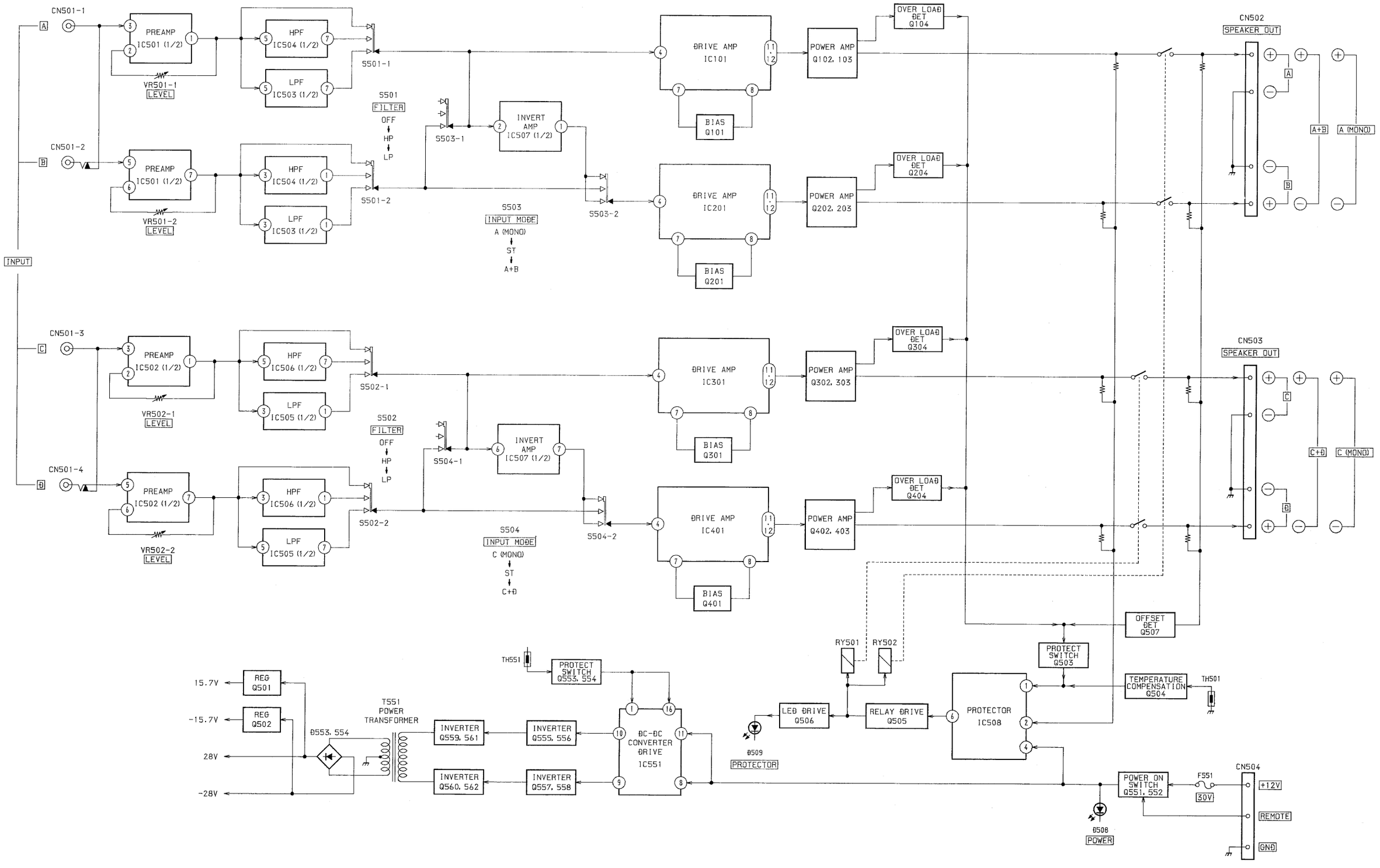


STEREO POWER AMPLIFIER

SONY®

SECTION 1
DIAGRAMS

1-1. BLOCK DIAGRAM



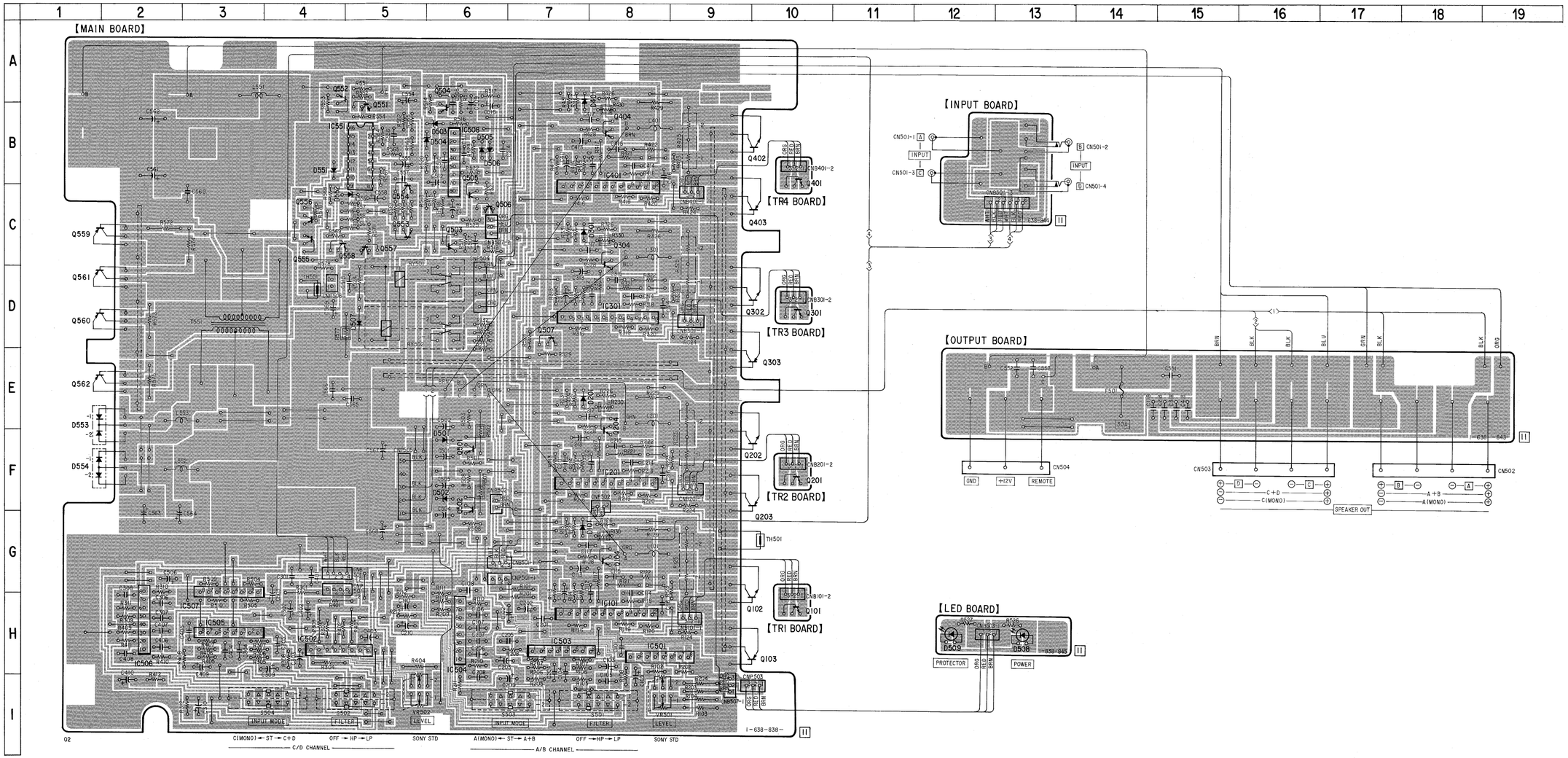
• SEMICONDUCTOR LOCATION

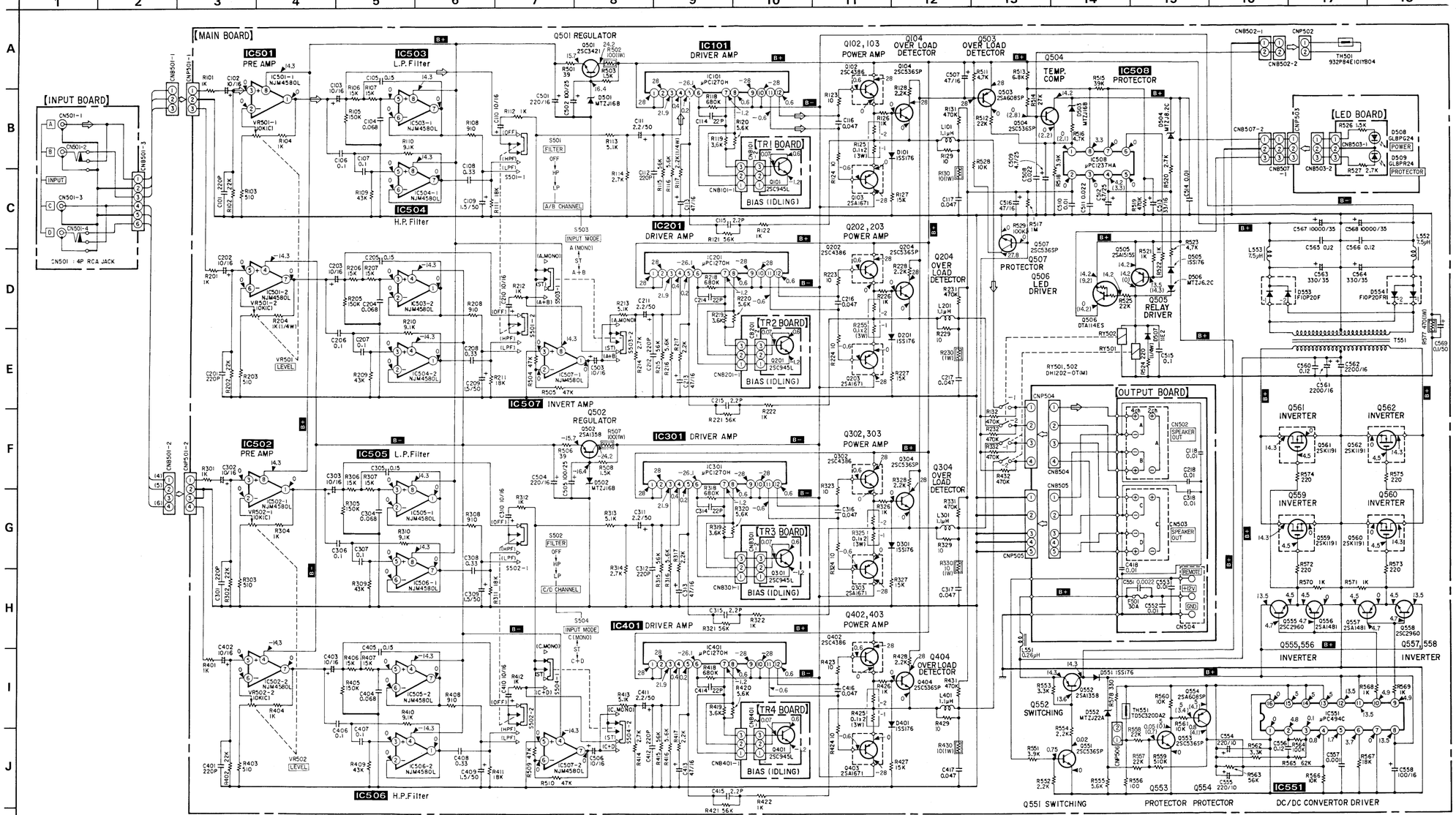
Ref. No.	Location	Ref. No.	Location
IC101	H-8	Q505	C-6
IC201	F-8	Q506	C-6
IC301	D-8	Q507	D-7
IC401	B-8	Q551	B-5
IC501	H-8	Q552	A-4
IC502	H-4	Q553	C-5
IC503	H-7	Q554	C-5
IC504	H-6	Q555	C-4
IC505	H-3	Q556	C-4
IC506	H-2	Q557	C-5
IC507	H-3	Q558	C-4
IC508	B-6	Q559	C-1
IC551	B-5	Q560	D-1
		Q561	D-1
		Q562	E-1
Q101	H-10		
Q102	H-10		
Q103	H-10	D101	G-7
Q104	G-8	D201	E-7
Q201	F-10	D301	C-7
		D401	A-7
Q202	F-10	D501	F-6
Q203	F-10		
Q204	E-8	D502	F-6
Q301	D-10	D503	B-6
Q302	D-10	D504	B-6
		D505	B-6
Q303	E-10	D506	B-6
Q304	C-8		
Q401	B-10	D507	D-5
Q402	B-10	D508	H-13
Q403	C-10	D509	H-12
		D551	B-4
Q404	B-8	D552	C-5
Q501	F-6		
Q502	F-6		
Q503	C-6		
Q504	B-6		

Note :

• O— : parts extracted from the component side.
• ▒▒▒ : Pattern on the side which is seen.

1-2. PRINTED WIRING BOARDS



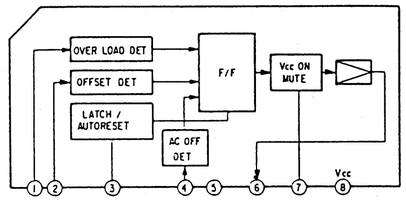


Note :

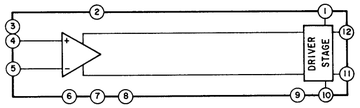
- All capacitors are in μF unless otherwise noted. pF : μμF
  50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- % : indicates tolerance.
- FW : nonflammable resistor.
- B+ : B+ Line
- B− : B− Line
- Power voltage is dc 14.4V and fed with regulated dc power supply from +12V and REMOTE terminals.
- no mark : INPUT MODE switch : STEREO
  ( ) : PROTECTOR ON
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : L−CH (A−CH)

IC BLOCK DIAGRAMS

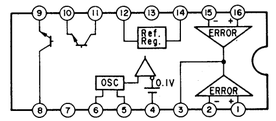
IC508
μPC1237HA



IC101, 201, 301, 401
μPC1270H

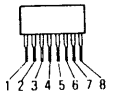


IC551
μPC494C

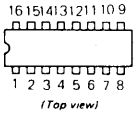


• SEMICONDUCTOR LEAD LAYOUTS

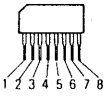
NJM4580L



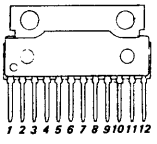
UPC494C



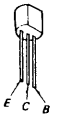
UPC1237HA



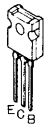
UPC1270H



2SA733-K
2SC945L-P

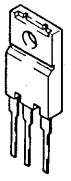


2SA1358-Y
2SC3421-Y



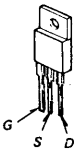
2SA1481F
2SC2785-HFE

2SA1671-Y
2SC4386-Y



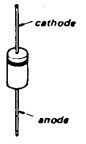
2SB984-K

2SK-1191

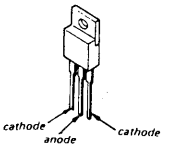


DTA114ES

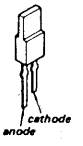
10E2
1SS176



F10P20F(R)
F10P20FR



SLP-151B-60
GL8PG24

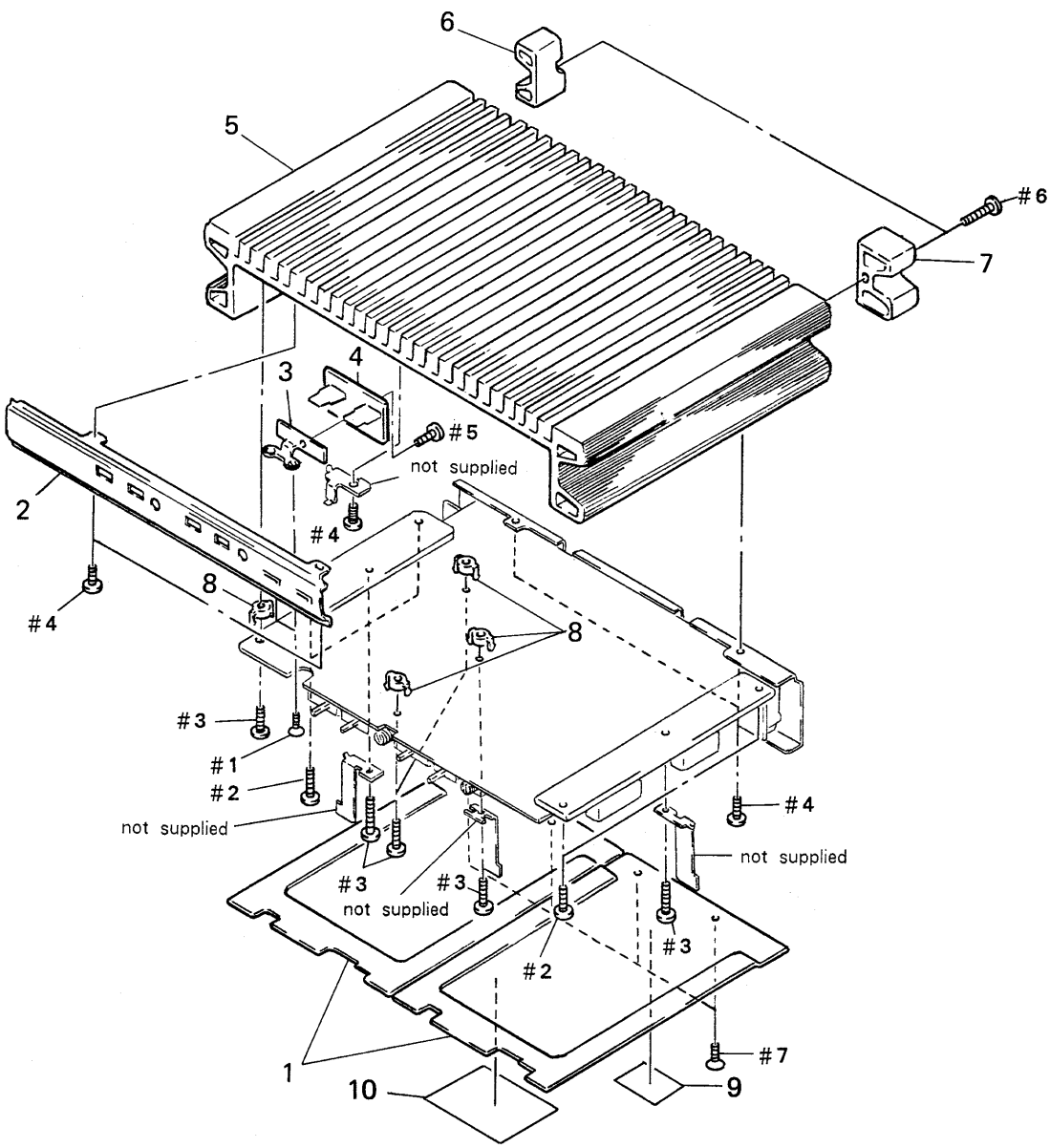


SECTION 2
EXPLODED VIEWS

NOTE:

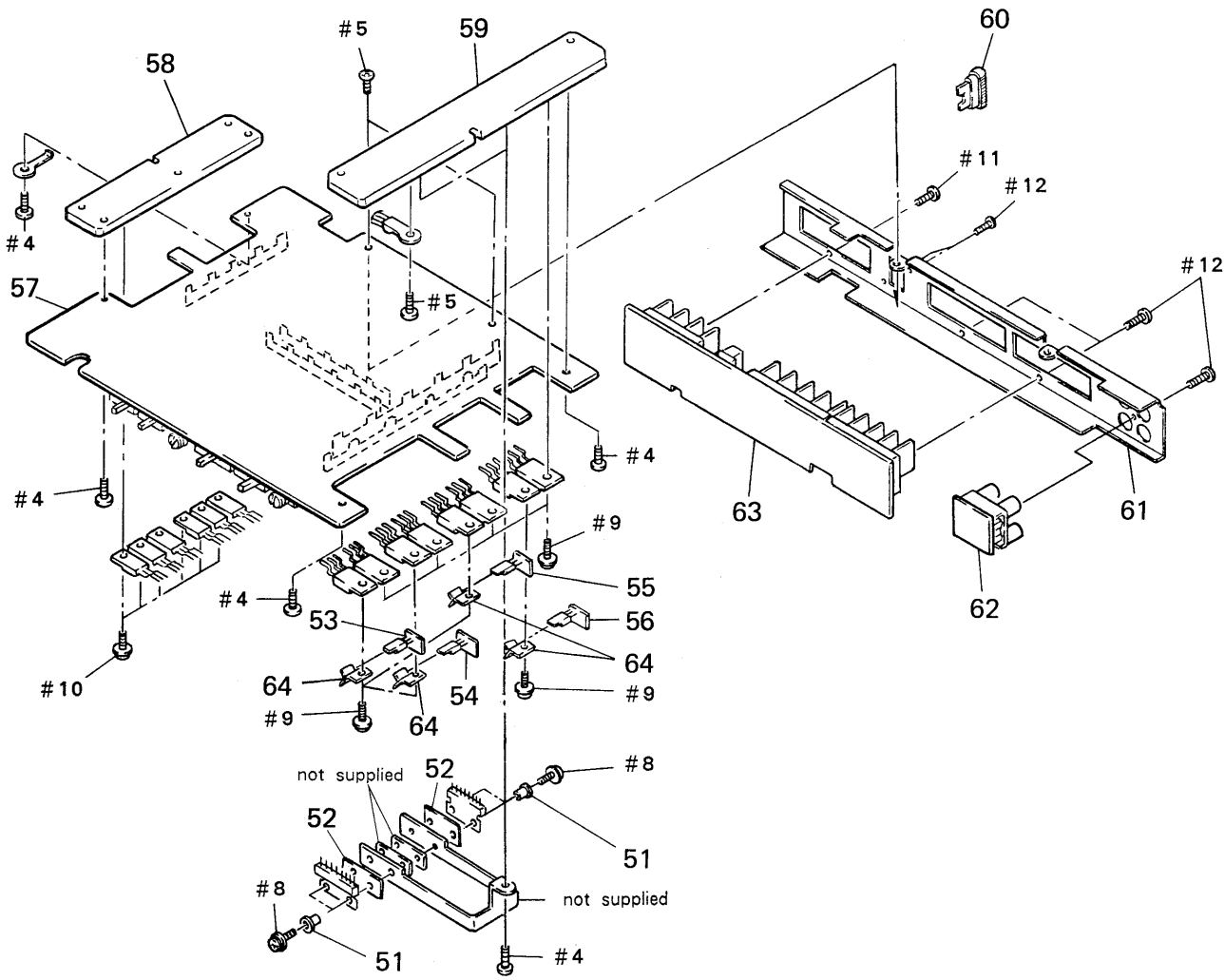
- —XX, —X mean standardized parts, so they may have some differences from the original one.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Color indication of Appearance Parts Example:
  KNOB, BALANCE (WHITE)....(RED)
  ↑ ↑
  Parts color Cabinet's color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of this parts list.

2-1.



Ref. No.	Part No.	Description	Remark
1	* 3-367-668-01	PLATE, BOTTOM	
2	3-367-666-01	PANEL (FRONT) (AEP, UK, E, Germany)	
	3-367-666-11	PANEL (FRONT) (US, Canadian)	
3	* 3-395-827-01	BRACKET (LED)	
4	* 1-638-845-11	LED BOARD	
5	3-367-665-01	HEAT SINK	
6	* 3-395-816-01	PROTECTOR (LEFT)	
7	* 3-395-817-01	PROTECTOR (RIGHT)	
8	* 3-395-832-01	SPACER	
9	* 3-367-529-01	LABEL, MODEL NUMBER (US/AEP/UK)	
9	* 3-367-530-01	LABEL, MODEL NUMBER (Canadian)	
9	* 3-367-531-01	LABEL, MODEL NUMBER (Germany)	
10	* 3-368-735-01	LABEL, INDICATOR	

2-2.



Ref. No.	Part No.	Description	Remark
51	2-371-561-01	BUSHING (P), INSULATING	
52	3-368-112-01	SHEET, INSULATING	
53	* 1-638-839-11	TR 1 BOARD	
54	* 1-638-839-11	TR 2 BOARD	
55	* 1-638-839-11	TR 3 BOARD	
56	* 1-638-839-11	TR 4 BOARD	
57	* A-3273-481-A	MAIN BOARD, COMPLETE	

Ref. No.	Part No.	Description	Remark
58	* 3-367-670-01	HEAT SINK (SUB B)	
59	* 3-367-669-01	HEAT SINK (SUB A)	
60	1-532-947-11	FUSE (BRADE TYPE) (AUTO FUSE) (30A)	
61	* 3-367-667-01	PANEL (REAR)	
62	* 1-638-843-11	OUTPUT BOARD	
63	* 1-638-844-11	INPUT BOARD	
64	* 3-396-106-01	BRACKET (TR)	

SECTION 3
ELECTRICAL PARTS LIST INPUT LED MAIN

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- —XX, —X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL : Metal-film resistor
  METAL OXIDE : Metal Oxide-film resistor
  F : nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : μ, for example :
  uA.... : μA...., uPA.... : μPA....
  uPB.... : μPB...., uPC.... : μPC....
  uPD.... : μPD....
- CAPACITORS
  uF : μF
- COILS
  uH : μH

When indicating parts by reference number, please include the board name.

Ref. No.	Part No.	Description	Remark
	* 1-638-844-11	INPUT BOARD	
		**********	
		< CONNECTOR >	
CNJ501	1-569-110-11	JACK, PIN (WITH SIWTCH) 4P (INPUT)	
**********			
	* 1-638-845-11	LED BOARD	
		*********	
		< DIODE >	
D508	8-719-979-90	DIODE GL8PG24 (POWER)	
D509	8-719-938-11	DIODE SLP-151B-60 (PROTECTOR)	
		< RESISTOR >	
R526	1-249-419-11	CARBON 1.5K 5% 1/4W	
R527	1-249-422-11	CARBON 2.7K 5% 1/4W	
**********			

Ref. No.	Part No.	Description	Remark
	* A-3273-481-A	MAIN BOARD, COMPLETE	
		**********	
	* 3-367-669-01	HEAT SINK (SUB A)	
	* 3-367-670-01	HEAT SINK (SUB B)	
	3-368-112-01	SHEET, INSULATING	
	2-371-561-01	BUSHING (P), INSULATING	
	* 3-396-106-01	BRACKET (TR)	
	7-621-759-65	+PSW, 2.6X8	
	7-621-759-75	+PSW, 2.6X10	
	7-682-948-01	SCREW +PSW 3X8	
	7-685-133-19	SCREW +BTP 2.6X6 TYPE2 N-S	
		< CAPACITOR >	
C101	1-102-110-00	CERAMIC 220PF 10% 50V	
C102	1-123-356-00	ELECT 10uF 20% 16V	
C103	1-123-356-00	ELECT 10uF 20% 16V	
C104	1-136-163-00	FILM 0.068uF 5% 50V	
C105	1-136-167-00	FILM 0.15uF 5% 50V	
C106	1-136-165-00	FILM 0.1uF 5% 50V	
C107	1-136-165-00	FILM 0.1uF 5% 50V	
C108	1-136-171-00	FILM 0.33uF 5% 50V	
C109	1-124-256-00	ELECT 1.5uF 20% 50V	
C110	1-123-356-00	ELECT 10uF 20% 16V	
C111	1-124-925-11	ELECT 2.2uF 20% 100V	
C112	1-162-286-31	CERAMIC 220PF 10% 50V	
C113	1-124-477-11	ELECT 47uF 20% 25V	
C114	1-162-207-31	CERAMIC 22PF 5% 50V	
C115	1-162-191-31	CERAMIC 2.2PF 10% 50V	
C116	1-136-161-00	FILM 0.047uF 5% 50V	
C117	1-136-161-00	FILM 0.047uF 5% 50V	
C201	1-102-110-00	CERAMIC 220PF 10% 50V	
C202	1-123-356-00	ELECT 10uF 20% 16V	
C203	1-123-356-00	ELECT 10uF 20% 16V	

MAIN

Ref. No.	Part No.	Description			Remark
C204	1-136-163-00	FILM	0.068uF	5%	50V
C205	1-136-167-00	FILM	0.15uF	5%	50V
C206	1-136-165-00	FILM	0.1uF	5%	50V
C207	1-136-165-00	FILM	0.1uF	5%	50V
C208	1-136-171-00	FILM	0.33uF	5%	50V
C209	1-124-256-00	ELECT	1.5uF	20%	50V
C210	1-123-356-00	ELECT	10uF	20%	16V
C211	1-124-925-11	ELECT	2.2uF	20%	100V
C212	1-162-286-31	CERAMIC	220PF	10%	50V
C213	1-124-477-11	ELECT	47uF	20%	25V
C214	1-162-207-31	CERAMIC	22PF	5%	50V
C215	1-162-191-31	CERAMIC	2.2PF	10%	50V
C216	1-136-161-00	FILM	0.047uF	5%	50V
C217	1-136-161-00	FILM	0.047uF	5%	50V
C301	1-102-110-00	CERAMIC	220PF	10%	50V
C302	1-123-356-00	ELECT	10uF	20%	16V
C303	1-123-356-00	ELECT	10uF	20%	16V
C304	1-136-163-00	FILM	0.068uF	5%	50V
C305	1-136-167-00	FILM	0.15uF	5%	50V
C306	1-136-165-00	FILM	0.1uF	5%	50V
C307	1-136-165-00	FILM	0.1uF	5%	50V
C308	1-136-171-00	FILM	0.33uF	5%	50V
C309	1-124-256-00	ELECT	1.5uF	20%	50V
C310	1-123-356-00	ELECT	10uF	20%	16V
C311	1-124-925-11	ELECT	2.2uF	20%	100V
C312	1-162-286-31	CERAMIC	220PF	10%	50V
C313	1-124-477-11	ELECT	47uF	20%	25V
C314	1-162-207-31	CERAMIC	22PF	5%	50V
C315	1-162-191-31	CERAMIC	2.2PF	10%	50V
C316	1-136-161-00	FILM	0.047uF	5%	50V
C317	1-136-161-00	FILM	0.047uF	5%	50V
C401	1-102-110-00	CERAMIC	220PF	10%	50V
C402	1-123-356-00	ELECT	10uF	20%	16V
C403	1-123-356-00	ELECT	10uF	20%	16V
C404	1-136-163-00	FILM	0.068uF	5%	50V
C405	1-136-167-00	FILM	0.15uF	5%	50V
C406	1-136-165-00	FILM	0.1uF	5%	50V
C407	1-136-165-00	FILM	0.1uF	5%	50V
C408	1-136-171-00	FILM	0.33uF	5%	50V
C409	1-124-256-00	ELECT	1.5uF	20%	50V
C410	1-123-356-00	ELECT	10uF	20%	16V
C411	1-124-925-11	ELECT	2.2uF	20%	100V
C412	1-162-286-31	CERAMIC	220PF	10%	50V
C413	1-124-477-11	ELECT	47uF	20%	25V
C414	1-162-207-31	CERAMIC	22PF	5%	50V
C415	1-162-191-31	CERAMIC	2.2PF	10%	50V
C416	1-136-161-00	FILM	0.047uF	5%	50V
C417	1-136-161-00	FILM	0.047uF	5%	50V
C501	1-124-120-11	ELECT	220uF	20%	25V

Ref. No.	Part No.	Description			Remark
C502	1-124-478-11	ELECT	100uF	20%	25V
C503	1-123-356-00	ELECT	10uF	20%	16V
C504	1-124-120-11	ELECT	220uF	20%	25V
C505	1-124-478-11	ELECT	100uF	20%	25V
C506	1-123-356-00	ELECT	10uF	20%	16V
C507	1-124-477-11	ELECT	47uF	20%	25V
C508	1-130-487-00	MYLAR	0.022uF	5%	50V
C509	1-123-369-00	ELECT	4.7uF	20%	25V
C510	1-130-483-00	MYLAR	0.01uF	5%	50V
C511	1-130-487-00	MYLAR	0.022uF	5%	50V
C512	1-123-369-00	ELECT	4.7uF	20%	25V
C513	1-124-034-51	ELECT	33uF	20%	16V
C514	1-130-483-00	MYLAR	0.01uF	5%	50V
C515	1-136-165-00	FILM	0.1uF	5%	50V
C516	1-124-477-11	ELECT	47uF	20%	25V
C554	1-126-176-11	ELECT	220uF	20%	10V
C555	1-126-176-11	ELECT	220uF	20%	10V
C556	1-136-166-00	FILM	0.12uF	5%	50V
C557	1-130-471-00	MYLAR	0.001uF	5%	50V
C558	1-126-101-11	ELECT	100uF	20%	16V
C560	1-136-166-00	FILM	0.12uF	5%	50V
C561	1-126-597-11	ELECT	2200uF	20%	16v
C562	1-126-597-11	ELECT	2200uF	20%	16v
C563	1-124-580-11	ELECT	330uF	20%	35V
C564	1-124-580-11	ELECT	330uF	20%	35V
C565	1-136-166-00	FILM	0.12uF	5%	50V
C566	1-136-166-00	FILM	0.12uF	5%	50V
C567	1-126-981-11	ELECT	10000uF	20%	35V
C568	1-126-981-11	ELECT	10000uF	20%	35V
C569	1-124-463-00	ELECT	0.1uF	20%	50V

< CONNECTOR >

CNP501	* 1-564-705-11	PIN, CONNECTOR (SMALL TYPE)	3P
CNP501	* 1-564-706-11	PIN, CONNECTOR (SMALL TYPE)	4P
CNP502	* 1-564-704-11	PIN, CONNECTOR (SMALL TYPE)	2P
CNP503	* 1-564-705-11	PIN, CONNECTOR (SMALL TYPE)	3P
CNP506	* 1-564-704-11	PIN, CONNECTOR (SMALL TYPE)	2P

< DIODE >

D101	8-719-802-30	DIODE	1SS176
D201	8-719-802-30	DIODE	1SS176
D301	8-719-802-30	DIODE	1SS176
D401	8-719-802-30	DIODE	1SS176
D501	8-719-110-49	DIODE	RD18ES-B2
D502	8-719-110-49	DIODE	RD18ES-B2
D503	8-719-110-49	DIODE	RD18ES-B2
D504	8-719-110-09	DIODE	RD8.2ES-B3
D505	8-719-802-30	DIODE	1SS176
D506	8-719-109-93	DIODE	RD6.2ES-B2

Ref. No.	Part No.	Description	Remark
D507	8-719-200-02	DIODE 10E2	
D551	8-719-802-30	DIODE 1SS176	
D552	8-719-010-98	DIODE UZ-22BSB	
D553	8-719-210-30	DIODE F10P20F(R)	
D554	8-719-210-38	DIODE F10P20FR	
		< IC >	
IC101	8-759-148-11	IC uPC1270H	
IC201	8-759-148-11	IC uPC1270H	
IC301	8-759-148-11	IC uPC1270H	
IC401	8-759-148-11	IC uPC1270H	
IC501	8-759-710-73	IC NJM4580L	
IC502	8-759-710-73	IC NJM4580L	
IC503	8-759-710-73	IC NJM4580L	
IC504	8-759-710-73	IC NJM4580L	
IC505	8-759-710-73	IC NJM4580L	
IC506	8-759-710-73	IC NJM4580L	
IC507	8-759-710-73	IC NJM4580L	
IC508	8-759-111-68	IC uPC1237HA	
IC551	8-759-103-87	IC uPC494C	
		< COIL >	
L101	* 1-428-086-11	COIL, AIR-CORE	
L201	* 1-428-086-11	COIL, AIR-CORE	
L301	* 1-428-086-11	COIL, AIR-CORE	
L401	* 1-428-086-11	COIL, AIR-CORE	
L551	1-424-303-11	COIL, CHOKE 0.26mH	
L552	1-424-112-11	COIL, CHOKE 7.5uH	
L553	1-424-112-11	COIL, CHOKE 7.5uH	
		< TRANSISTOR >	
Q102	8-729-321-40	TRANSISTOR 2SC4386-Y	
Q103	8-729-321-37	TRANSISTOR 2SA1671-Y	
Q104	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q202	8-729-321-40	TRANSISTOR 2SC4386-Y	
Q203	8-729-321-37	TRANSISTOR 2SA1671-Y	
Q204	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q302	8-729-321-40	TRANSISTOR 2SC4386-Y	
Q303	8-729-321-37	TRANSISTOR 2SA1671-Y	
Q304	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q402	8-729-321-40	TRANSISTOR 2SC4386-Y	
Q403	8-729-321-37	TRANSISTOR 2SA1671-Y	
Q404	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q501	8-729-207-82	TRANSISTOR 2SC3421-Y	
Q502	8-729-207-89	TRANSISTOR 2SA1358-Y	
Q503	8-729-173-38	TRANSISTOR 2SA733-K	
Q504	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q505	8-729-111-52	TRANSISTOR 2SB984-K	
Q506	8-729-900-61	TRANSISTOR DTA114ES	

Ref. No.	Part No.	Description	Remark
Q551	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q552	8-729-207-89	TRANSISTOR 2SA1358-Y	
Q553	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q554	8-729-173-38	TRANSISTOR 2SA733-K	
Q555	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q556	8-729-803-58	TRANSISTOR 2SA1481-F	
Q557	8-729-803-58	TRANSISTOR 2SA1481-F	
Q558	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q559	8-729-322-52	TRANSISTOR 2SK1191	
Q560	8-729-322-52	TRANSISTOR 2SK1191	
Q561	8-729-322-52	TRANSISTOR 2SK1191	
Q562	8-729-322-52	TRANSISTOR 2SK1191	
		< RESISTOR >	
R101	1-247-713-11	CARBON 1K 5% 1/4W	
R102	1-249-433-11	CARBON 22K 5% 1/4W	
R103	1-247-709-11	CARBON 510 5% 1/4W	
R104	1-247-713-11	CARBON 1K 5% 1/4W	
R105	1-247-883-00	CARBON 150K 5% 1/4W	
R106	1-249-431-11	CARBON 15K 5% 1/4W	
R107	1-249-431-11	CARBON 15K 5% 1/4W	
R108	1-247-830-11	CARBON 910 5% 1/4W	
R109	1-247-870-11	CARBON 43K 5% 1/4W	
R110	1-247-854-11	CARBON 9.1K 5% 1/4W	
R111	1-249-432-11	CARBON 18K 5% 1/4W	
R112	1-249-417-11	CARBON 1K 5% 1/4W	
R113	1-247-848-11	CARBON 5.1K 5% 1/4W	
R114	1-249-422-11	CARBON 2.7K 5% 1/4W	
R115	1-249-438-11	CARBON 56K 5% 1/4W	
R116	1-249-426-11	CARBON 5.6K 5% 1/4W	
R117	1-247-717-11	CARBON 2.2K 5% 1/4W	
R118	1-247-899-11	CARBON 680K 5% 1/4W	
R119	1-247-844-11	CARBON 3.6K 5% 1/4W	
R120	1-249-426-11	CARBON 5.6K 5% 1/4W	
R121	1-249-466-11	CARBON 56K 5% 1/4W	
R122	1-247-713-11	CARBON 1K 5% 1/4W	
R123	1-249-393-11	CARBON 10 5% 1/4W	
R124	1-249-393-11	CARBON 10 5% 1/4W	
R125	1-219-130-11	RES, METAL PLATE 0.1X2	
R126	1-249-417-11	CARBON 1K 5% 1/4W	
R127	1-249-431-11	CARBON 15K 5% 1/4W	
R128	1-249-421-11	CARBON 2.2K 5% 1/4W	
R129	1-247-688-11	CARBON 10 5% 1/4W	
R130	1-215-857-11	METAL OXIDE 10 5% 1W	F
R131	1-247-895-00	CARBON 470K 5% 1/4W	
R132	1-247-895-00	CARBON 470K 5% 1/4W	
R201	1-247-713-11	CARBON 1K 5% 1/4W	
R202	1-249-433-11	CARBON 22K 5% 1/4W	
R203	1-247-709-11	CARBON 510 5% 1/4W	

MAIN

Ref. No.	Part No.	Description				Remark
R204	1-247-713-11	CARBON	1K	5%	1/4W	
R205	1-247-883-00	CARBON	150K	5%	1/4W	
R206	1-249-431-11	CARBON	15K	5%	1/4W	
R207	1-249-431-11	CARBON	15K	5%	1/4W	
R208	1-247-830-11	CARBON	910	5%	1/4W	
R209	1-247-870-11	CARBON	43K	5%	1/4W	
R210	1-247-854-11	CARBON	9.1K	5%	1/4W	
R211	1-249-432-11	CARBON	18K	5%	1/4W	
R212	1-249-417-11	CARBON	1K	5%	1/4W	
R213	1-247-848-11	CARBON	5.1K	5%	1/4W	
R214	1-249-422-11	CARBON	2.7K	5%	1/4W	
R215	1-249-438-11	CARBON	56K	5%	1/4W	
R216	1-249-426-11	CARBON	5.6K	5%	1/4W	
R217	1-247-717-11	CARBON	2.2K	5%	1/4W	
R218	1-247-899-11	CARBON	680K	5%	1/4W	
R219	1-247-844-11	CARBON	3.6K	5%	1/4W	
R220	1-249-426-11	CARBON	5.6K	5%	1/4W	
R221	1-249-466-11	CARBON	56K	5%	1/4W	
R222	1-247-713-11	CARBON	1K	5%	1/4W	
R223	1-249-393-11	CARBON	10	5%	1/4W	
R224	1-249-393-11	CARBON	10	5%	1/4W	
R225	1-219-130-11	RES, METAL PLATE 0.1X2				
R226	1-249-417-11	CARBON	1K	5%	1/4W	
R227	1-249-431-11	CARBON	15K	5%	1/4W	
R228	1-249-421-11	CARBON	2.2K	5%	1/4W	
R229	1-247-688-11	CARBON	10	5%	1/4W	
R230	1-215-857-11	METAL OXIDE	10	5%	1W	F
R231	1-247-895-00	CARBON	470K	5%	1/4W	
R232	1-247-895-00	CARBON	470K	5%	1/4W	
R301	1-247-713-11	CARBON	1K	5%	1/4W	
R302	1-249-433-11	CARBON	22K	5%	1/4W	
R303	1-247-709-11	CARBON	510	5%	1/4W	
R304	1-247-713-11	CARBON	1K	5%	1/4W	
R305	1-247-883-00	CARBON	150K	5%	1/4W	
R306	1-249-431-11	CARBON	15K	5%	1/4W	
R307	1-249-431-11	CARBON	15K	5%	1/4W	
R308	1-247-830-11	CARBON	910	5%	1/4W	
R309	1-247-870-11	CARBON	43K	5%	1/4W	
R310	1-247-854-11	CARBON	9.1K	5%	1/4W	
R311	1-249-432-11	CARBON	18K	5%	1/4W	
R312	1-249-417-11	CARBON	1K	5%	1/4W	
R313	1-247-848-11	CARBON	5.1K	5%	1/4W	
R314	1-249-422-11	CARBON	2.7K	5%	1/4W	
R315	1-249-438-11	CARBON	56K	5%	1/4W	
R316	1-249-426-11	CARBON	5.6K	5%	1/4W	
R317	1-247-717-11	CARBON	2.2K	5%	1/4W	
R318	1-247-899-11	CARBON	680K	5%	1/4W	
R319	1-247-844-11	CARBON	3.6K	5%	1/4W	
R320	1-249-426-11	CARBON	5.6K	5%	1/4W	
R321	1-249-466-11	CARBON	56K	5%	1/4W	
R322	1-247-713-11	CARBON	1K	5%	1/4W	
R323	1-249-393-11	CARBON	10	5%	1/4W	
R324	1-249-393-11	CARBON	10	5%	1/4W	
R325	1-219-130-11	RES, METAL PLATE 0.1X2				
R326	1-249-417-11	CARBON	1K	5%	1/4W	
R327	1-249-431-11	CARBON	15K	5%	1/4W	
R328	1-249-421-11	CARBON	2.2K	5%	1/4W	
R329	1-247-688-11	CARBON	10	5%	1/4W	
R330	1-215-857-11	METAL OXIDE	10	5%	1W	F
R331	1-247-895-00	CARBON	470K	5%	1/4W	
R332	1-247-895-00	CARBON	470K	5%	1/4W	
R401	1-247-713-11	CARBON	1K	5%	1/4W	
R402	1-249-433-11	CARBON	22K	5%	1/4W	
R403	1-247-709-11	CARBON	510	5%	1/4W	
R404	1-247-713-11	CARBON	1K	5%	1/4W	
R405	1-247-883-00	CARBON	150K	5%	1/4W	
R406	1-249-431-11	CARBON	15K	5%	1/4W	
R407	1-249-431-11	CARBON	15K	5%	1/4W	
R408	1-247-830-11	CARBON	910	5%	1/4W	
R409	1-247-870-11	CARBON	43K	5%	1/4W	
R410	1-247-854-11	CARBON	9.1K	5%	1/4W	
R411	1-249-432-11	CARBON	18K	5%	1/4W	
R412	1-249-417-11	CARBON	1K	5%	1/4W	
R413	1-247-848-11	CARBON	5.1K	5%	1/4W	
R414	1-249-422-11	CARBON	2.7K	5%	1/4W	
R415	1-249-438-11	CARBON	56K	5%	1/4W	
R416	1-249-426-11	CARBON	5.6K	5%	1/4W	
R417	1-247-717-11	CARBON	2.2K	5%	1/4W	
R418	1-247-899-11	CARBON	680K	5%	1/4W	
R419	1-247-844-11	CARBON	3.6K	5%	1/4W	
R420	1-249-426-11	CARBON	5.6K	5%	1/4W	
R421	1-249-466-11	CARBON	56K	5%	1/4W	
R422	1-247-713-11	CARBON	1K	5%	1/4W	
R423	1-249-393-11	CARBON	10	5%	1/4W	
R424	1-249-393-11	CARBON	10	5%	1/4W	
R425	1-219-130-11	RES, METAL PLATE 0.1X2				
R426	1-249-417-11	CARBON	1K	5%	1/4W	
R427	1-249-431-11	CARBON	15K	5%	1/4W	
R428	1-249-421-11	CARBON	2.2K	5%	1/4W	
R429	1-247-688-11	CARBON	10	5%	1/4W	
R430	1-215-857-11	METAL OXIDE	10	5%	1W	F
R431	1-247-895-00	CARBON	470K	5%	1/4W	
R432	1-247-895-00	CARBON	470K	5%	1/4W	
R501	1-249-400-11	CARBON	39	5%	1/4W	
R502	1-215-863-11	METAL OXIDE	100	5%	1W	F
R503	1-249-419-11	CARBON	1.5K	5%	1/4W	
R504	1-249-437-11	CARBON	47K	5%	1/4W	
R505	1-249-437-11	CARBON	47K	5%	1/4W	

MAIN **TR1** **TR2** **TR3** **TR4**

Ref. No.	Part No.	Description				Remark
R506	1-249-400-11	CARBON	39	5%	1/4W	
R507	1-215-863-11	METAL OXIDE	100	5%	1W	F
R508	1-249-419-11	CARBON	1.5K	5%	1/4W	
R509	1-249-437-11	CARBON	47K	5%	1/4W	
R510	1-249-437-11	CARBON	47K	5%	1/4W	
R511	1-249-425-11	CARBON	4.7K	5%	1/4W	
R512	1-249-433-11	CARBON	22K	5%	1/4W	
R513	1-249-427-11	CARBON	6.8K	5%	1/4W	
R514	1-249-434-11	CARBON	27K	5%	1/4W	
R515	1-249-436-11	CARBON	39K	5%	1/4W	
R516	1-249-425-11	CARBON	4.7K	5%	1/4W	
R517	1-247-903-00	CARBON	1M	5%	1/4W	
R518	1-249-424-11	CARBON	3.9K	5%	1/4W	
R519	1-247-895-00	CARBON	470K	5%	1/4W	
R520	1-249-422-11	CARBON	2.7K	5%	1/4W	
R521	1-249-417-11	CARBON	1K	5%	1/4W	
R522	1-249-417-11	CARBON	1K	5%	1/4W	
R523	1-249-425-11	CARBON	4.7K	5%	1/4W	
R524	1-247-704-11	CARBON	220	5%	1/4W	
R525	1-249-433-11	CARBON	22K	5%	1/4W	
R551	1-249-424-11	CARBON	3.9K	5%	1/4W	
R552	1-249-421-11	CARBON	2.2K	5%	1/4W	
R553	1-249-423-11	CARBON	3.3K	5%	1/4W	
R554	1-249-421-11	CARBON	2.2K	5%	1/4W	
R555	1-249-426-11	CARBON	5.6K	5%	1/4W	
R556	1-249-405-11	CARBON	100	5%	1/4W	
R557	1-249-433-11	CARBON	22K	5%	1/4W	
R558	1-249-433-11	CARBON	22K	5%	1/4W	
R559	1-247-896-11	CARBON	510K	5%	1/4W	
R560	1-249-429-11	CARBON	10K	5%	1/4W	
R561	1-249-429-11	CARBON	10K	5%	1/4W	
R562	1-249-423-11	CARBON	3.3K	5%	1/4W	
R563	1-249-438-11	CARBON	56K	5%	1/4W	
R564	1-249-441-11	CARBON	100K	5%	1/4W	
R565	1-247-874-11	CARBON	62K	5%	1/4W	
R566	1-249-429-11	CARBON	10K	5%	1/4W	
R567	1-249-432-11	CARBON	18K	5%	1/4W	
R568	1-249-417-11	CARBON	1K	5%	1/4W	
R569	1-249-417-11	CARBON	1K	5%	1/4W	
R570	1-249-417-11	CARBON	1K	5%	1/4W	
R571	1-249-417-11	CARBON	1K	5%	1/4W	
R572	1-249-409-11	CARBON	220	5%	1/4W	
R573	1-249-409-11	CARBON	220	5%	1/4W	
R574	1-249-409-11	CARBON	220	5%	1/4W	
R575	1-249-409-11	CARBON	220	5%	1/4W	
R577	1-215-867-00	METAL OXIDE	470	5%	1W	F

Ref. No.	Part No.	Description	Remark
		< RELAY >	
RY501	1-515-766-11	RELAY	
RY502	1-515-766-11	RELAY	
		< SWITCH >	
S501	1-527-753-11	SWITCH, SLIDE (FILTER)	
S502	1-527-753-11	SWITCH, SLIDE (FILTER)	
S503	1-527-753-11	SWITCH, SLIDE (INPUT MODE)	
S504	1-527-753-11	SWITCH, SLIDE (INPUT MODE)	
		< TRANSFORMER >	
T551	1-450-528-11	TRANSFORMER POWER	
		< THERMISTOR >	
TH501	1-808-877-11	THERMISTOR	
TH551	1-800-427-00	POSISTOR	
		< VARIABLE RESISTOR >	
VR501	1-241-500-11	RES, VAR (LEVEL)	
VR502	1-241-500-11	RES, VAR (LEVEL)	
	* 1-638-839-11	TR1 BOARD	
		*********	
		< TRANSISTOR >	
Q101	8-729-101-93	TRANSISTOR 2SC945L-P	
	* 1-638-839-11	TR2 BOARD	
		*********	
		< TRANSISTOR >	
Q201	8-729-101-93	TRANSISTOR 2SC945L-P	
	* 1-638-839-11	TR3 BOARD	
		*********	
		< TRANSISTOR >	
Q301	8-729-101-93	TRANSISTOR 2SC945L-P	
	* 1-638-839-11	TR4 BOARD	
		*********	
		< TRANSISTOR >	
Q401	8-729-101-93	TRANSISTOR 2SC945L-P	

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OUTPUT

Ref. No.	Part No.	Description			Remark
*	1-638-843-11	OUTPUT BOARD			
		**********			
		< CAPACITOR >			
C118	1-102-129-00	CERAMIC	10000PF	10% 50V	
C218	1-102-129-00	CERAMIC	10000PF	10% 50V	
C318	1-102-129-00	CERAMIC	10000PF	10% 50V	
C418	1-102-129-00	CERAMIC	10000PF	10% 50V	
C551	1-136-375-11	FILM	0.0022uF	5% 50V	
C552	1-102-129-00	CERAMIC	10000PF	10% 50V	
C553	1-102-129-00	CERAMIC	10000PF	10% 50V	
		< CONNECTOR >			
CN502	1-537-252-11	TERMINAL BOARD (4P) (SPEAKER OUT)			
CN503	1-537-252-11	TERMINAL BOARD (4P) (SPEAKER OUT)			
CN504	1-537-251-11	TERMINAL BOARD (3P) (REMOTE/+12V/GND)			
		<FUSE HOLDER>			
F501	1-533-226-11	HOLDER, FUSE (BRAID)			
		MISCELLANEOUS			
		**********			
	1-532-947-11	FUSE (BRADE TYPE) (AUTO FUSE) (30A)			

Ref. No.	Part No.	Description	Remark
		ACCESSORY & PACKING MATERIAL	
		**********	
*	1-535-362-00	CONNECTOR (EXTENSION) (AEP/UK/E)	
	1-574-018-11	CORD (WITH TERMINAL) (AEP/UK/E)	
	1-575-060-11	CORD (WITH TERMINAL) (G) (AEP/UK/E)	
	1-575-061-11	CORD (WITH TERMINAL) (BUCKUP) (AEP/UK/E)	
*	1-575-090-11	CORD (WITH TERMINAL) (REM) (AEP/UK/E)	
*	3-368-039-01	INDIVIDUAL CARTON (U)	
*	3-368-043-01	CUSHION (F)	
*	3-368-046-01	CUSHION (R)	
	3-395-839-12	SCREW (DIA. 5), TAPPING	
*	3-704-282-01	BAG (STANDARD), PROTECTION	
	3-706-714-00	GROMMET (AEP/UK/E)	
	3-753-182-11	MANUAL, INSTRUCTION (AEP/UK/E/Germany) (ENGLISH)	
	3-753-182-21	MANUAL, INSTRUCTION (US/Canadian) (ENGLISH/FRENCH)	
	3-753-182-41	MANUAL, INSTRUCTION (AEP/UK) (ENGLISH)	

HARDWARE LIST

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# 1	7-627-450-78	SCREW, PRECISION +K 1.7X4
# 2	7-685-135-19	SCREW +BTP 2.6X10 TYPE2 N-S
# 3	7-685-536-19	SCREW +BTP 2.6X12 TYPE2 N-S
# 4	7-685-133-19	SCREW +P 2.6X6 TYPE2
# 5	7-621-770-67	SCREW +BVTT 2.6X6 (S)
# 6	7-685-650-79	SCREW +BTP 3X16 TYPE2 N-S
# 7	7-621-559-30	SCREW +K 2.6X5
# 8	7-682-948-01	SCREW +PSW 3X8
# 9	7-621-759-75	+PSW, 2.6X10
#10	7-621-759-65	+PSW, 2.6X8
#11	7-685-646-79	SCREW +P 3X8 TYPE2 NON-SLIT
#12	7-685-104-19	SCREW +P 2X6 TYPE2 NON-SLIT

9-956-225-11

Sony Corporation
Mobile Electronics Group

English
91B0277-1
Printed in Japan
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Published by Customer Relations and Service Group